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EXAMINER

MURPHY, DILLON J

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,000

Applicant(s)

SMITH ET AL.

Examiner

Dillon J. Murphy

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

DOUGLAS Q. TRAN
PRIMARY EXAMINER

Tran

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. 10/11/05
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

- This action is in response to the amendment filed on November 10, 2005.
- Claims 1-36 are pending.
- Amendments to the specification are acknowledged and accepted.

Specification

The disclosure is objected to because of the following informalities: On page 8, line 25 of the original specification, the word "compatible" should be --compatibility--.

Appropriate correction is required.

Double Patenting

Claim 27 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 11. Claim 28 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 12. Claim 29 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 13. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 11-14, 19, 24, 27-30, and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al. (US 6,091,508) and Yoshida et al. (US 6,130,757), hereafter referred to as Love and Yoshida.

Regarding claim 1, Love teaches a method of revising software in a printer comprising revising a revisable (Love, col 4, ln 6-22, wherein multiple pieces of software may be downloaded to printer to revise/update functions of multifunctional printing system. Also see col 4, ln 37-39, wherein code is created by using a standard compiler and linker. Code in a compiler may additionally be a revision of previous code) software component of the multi-component software for a part of a multifunctional printer (Love, fig 4, multifunctional printing system);

Providing all other revisable software components for parts of the multifunctional printer (Love, col 4, ln 37-39, wherein all source code is compiled and linked. In col 4, ln 47-62, of all the code compiled for software, "external" routines are routines that are resident in the printer, and "internal" routines are a revised component. External routines are provided in the Relocation Table in the COFF file, and internal routines are provided in Raw Data Section (col 5, ln 59-62) of COFF file);

Art Unit: 2624

Qualifying the revised software component (Love, col 4, ln 40-41, compiling the code characterizes software into object code files) in conjunction with all of the other revisable software components (Love, col 4, ln 6-15, ln 40-41, wherein all code is compiled, and wherein software components for multifunctional printing system are revised);

Bundling the software components as a software bundle wherein the software components comprise the qualified, revised software component (Love, col 4, ln 41-43, aforementioned revised and qualified object files are combined (i.e. bundled) into a single software bundle); and

Loading the software bundle on to the multifunctional printer (Love, col 6, ln 9-12, after code preparation is complete, software bundle is loaded onto printer. Also see fig 4 teaching a multifunctional printing system).

Love does not disclose expressly the method of revising software in a multifunctional printer. Yoshida, however, discloses a multifunctional printer with software control (Yoshida, col 4, ln 35-38, copying machine provides duplex copying, sorting function, stapling function, and facsimile function. See also col 7, ln 1-11, disclosing programs stored in memory controlling multifunctional device).

Love and Yoshida are combinable because they are from a similar field of endeavor of network printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the multifunctional device of Yoshida with the method of revising, qualifying, bundling, and loading of software of Love. The suggestion for doing so would have been to download the software to control the device

Art Unit: 2624

from an external source (Love, col 1, ln 50-53), as well as to use a multifunctional device to expand the capabilities of a single device and to minimize space in a work environment. Additionally, Love suggests the use of a multifunctional printer as seen in fig 4, teaching a multifunctional printing system. Therefore, it would have been obvious to combine Yoshida with Love to obtain the invention as specified in claim 1.

Regarding claim 4, which depends from claim 1, the combination of Love and Yoshida teaches a method of revising software for a multifunctional printer wherein the bundle comprises a single file (Love, col 4, ln 40-43, software is bundled into a single Common File Format File).

Regarding claim 5, which depends from claim 4, the combination of Love and Yoshida teaches a method of revising software for a multifunctional printer wherein the file has an extension associated with software bundles (Love, col 4, ln 40-43, software is bundled into a single Common Object File Format File, which implicitly has an associated extension with software bundles).

Regarding claim 6, which depends from claim 1, the combination of Love and Yoshida teaches a method of revising software for a multifunctional printer wherein the software bundle comprises at least one software component selected from the group consisting of print media software and print finishing software (Love, col 4, ln 37-38, downloaded software includes a printer driver, wherein downloaded software is a revised, qualified, software bundle as explained in the rejection of claim 1).

Regarding claim 11, the combination of Love and Yoshida teaches a computer-readable medium storing computer-executable instructions to load a software bundle on

Art Unit: 2624

to a multifunctional printer (Love, col 2, ln 61-64, the Input/Output Subsystem controlling the loading software function comprises a control program. The printer also comprises a controller and ROM, col 2, ln 49-55) wherein the software bundle comprises a plurality of revisable software components (Love, col 4, ln 6-22, wherein multiple pieces of software may be downloaded to printer to revise/update functions of multifunctional printing system. Also see col 4, ln 37-39, wherein code is created by using a standard compiler and linker. Code in a compiler may additionally be a revision of previous code) for parts of the multifunctional printer (Love, fig 4, multifunctional printing system, and Yoshida, fig 1, multifunctional copier #1) and a qualified, revised software component for a part of the multifunctional printer (Love, col 4, ln 40-41, compiling the code characterizes, i.e. qualifies, software into object code files), the qualified revised software component qualified in conjunction with the plurality of revisable software components (Love, col 4, ln 6-15, ln 40-41, wherein all code is compiled, and wherein the plurality of software components for multifunctional printing system are revised).

Regarding claim 12, which depends from claim 11, the combination of Love and Yoshida teaches a computer-readable medium storing computer-executable instructions further comprising instructions to initialize a multifunctional printer (Love, col 7, ln 19-23, final linking of new downloaded code configures printer for operation by setting in memory).

Regarding claim 13, which depends from claim 11, the combination of Love and Yoshida teaches a computer-readable medium storing computer-executable instructions further comprising instructions to transmit information related to loading a software

Art Unit: 2624

bundle on a multifunctional printer (Love, col 7, ln 19-28, new downloaded code is activated either automatically or by information transmitted by control panel).

Regarding claim 14, the combination of Love and Yoshida teaches a method of revising software in a multifunctional printer (Yoshida, col 4, ln 35-38, copying machine provides duplex copying, sorting function, stapling function, and facsimile function. See also col 7, ln 1-11, disclosing programs stored in memory controlling multifunctional device. Also see Love, fig 4, teaching a multifunctional printing system), comprising loading the software on to a multifunctional printer in the form of a software bundle (Love, col 6, ln 9-12, after code preparation is complete, software bundle is loaded onto printer) wherein the software bundle comprises a plurality of revisable software components (Love, col 4, ln 6-22, wherein multiple pieces of software may be downloaded to printer to revise/update functions of multifunctional printing system. Also see col 4, ln 37-39, wherein code is created by using a standard compiler and linker. Code in a compiler may additionally be a revision of previous code) for parts of the multifunctional printer (Love, fig 4, multifunctional printing system, and Yoshida, fig 1, multifunctional copier #1) and a qualified, revised software component for a part of the multifunctional printer (Love, col 4, ln 40-41, compiling the code characterizes, i.e. qualifies, software into object code files), the qualified revised software component qualified in conjunction with the plurality of revisable software components (Love, col 4, ln 6-15, ln 40-41, wherein all code is compiled, and wherein the plurality of software components for multifunctional printing system are revised).

Art Unit: 2624

Regarding claim 19, which depends from claim 14, the combination of Love and Yoshida teaches a method of revising software for a multifunctional printer wherein the software bundle comprises at least one software component selected from the group consisting of print media software and print finishing software (Love, col 4, ln 37-38, downloaded software includes a printer driver).

Regarding claim 24, the combination of Love and Yoshida teaches a method of revising software in a multifunctional device (Yoshida, col 4, ln 35-38, copying machine provides duplex copying, sorting function, stapling function, and facsimile function. See also col 7, ln 1-11, disclosing programs stored in memory controlling multifunctional device. See also fig 4 of Love disclosing a multifunctional printing system) comprising:

Revising at least one revisable software component of the multi-component software (Love, col 4, ln 37-39, code is created by using a standard compiler and linker);

Providing all other revisable software components of the multifunctional device (Love, col 4, ln 37-39, wherein all source code is compiled and linked. In col 4, ln 47-62, of all the code compiled for software, "external" routines are routines that are resident in the printer, and "internal" routines are a revised component. External routines are provided in the Relocation Table in the COFF file, and internal routines are provided in Raw Data Section (col 5, ln 59-42) of COFF file);

Qualifying the at least one revisable software component in conjunction with all of the other revisable software components (Love, col 4, ln 40-41, compiling the code characterizes software into object code files);

Art Unit: 2624

Bundling the multi-component software as a software bundle (Love, col 4, ln 41-43, object files are combined (i.e. bundled) into a single software bundle); and

Loading the software bundle on to a multifunctional device (Love, col 6, ln 9-12, after code preparation is complete, software bundle is loaded onto printer).

Regarding claim 27, it is rejected for the same reason as claim 11.

Regarding claim 28, which depends on claim 27, it is rejected for the same reason as claim 12.

Regarding claim 29, which depends on claim 27, it is rejected for the same reason as claim 13.

Regarding claim 30, the combination of Love and Yoshida teaches a multifunctional printer (Yoshida, col 4, ln 35-38, copying machine (#1, figure 1) provides duplex copying, sorting function, stapling function, and facsimile function. See also col 7, ln 1-11, disclosing programs stored in memory controlling multifunctional device. See also fig 4 of Love disclosing a multifunctional printing system) comprising:

An input (Love, figure 1, input cable #23) for receiving a software bundle (Love, col 2, ln 46-48) wherein the software bundle includes revisable software components (Love, col 4, ln 6-22, wherein multiple pieces of software may be downloaded to printer to revise/update functions of multifunctional printing system. Also see col 4, ln 37-39, wherein code is created by using a standard compiler and linker. Code in a compiler may additionally be a revision of previous code) for at least two printer parts (Love, col 4, ln 31-33, software components comprise instructions for controlling paper tray selection and control panel, for example) wherein at least one of the revisable software

Art Unit: 2624

components comprises a qualified, revised software component (Love, col 4, ln 40-41, compiling the code characterizes, i.e. qualifies, software into object code files) qualified in conjunction with the other revisable software components (Love, col 4, ln 6-15, ln 40-41, wherein all code is compiled, and wherein the plurality of software components for multifunctional printing system are revised); and

A processor (Love, figure 3, Controller #3 controls operation of printer via instructions from ROM, col 2, ln 50-55) configured to distinguish each of the software components included in the software bundle (Love, col 9, ln 29-41, data is examined and each specific function of new downloaded code is determined and linked).

Regarding claim 32, which depends from claim 30, the combination of Love and Yoshida teaches a multifunctional printer further comprising a Web browser (Love, col 11, ln 15-20, printer may be connected to a network and the downloaded driver may be a web browser).

Regarding claim 33, which depends from claim 30, the combination of Love and Yoshida teaches a multifunctional device wherein one of the at least two printer parts comprises a scanner (Love, figure 4, multifunctional device comprises Printer #1 and Scanner #402).

Regarding claim 34, which depends from claim 30, the combination of Love and Yoshida teaches a multifunctional device wherein one of the at least two printer parts comprises a stacker (Yoshida, figure #1, Multifunctional Device #1 contains sorting function which stacks paper after sorting operation occurs onto Output Reception Tray #88 of figure 2).

Regarding claim 35, which depends from claim 30, the combination of Love and Yoshida teaches a multifunctional device wherein the processor is configured to recognize a file extension associated with a software bundle (Love, col 4, ln 40-43, software is bundled into a single Common Object File Format File, which implicitly has an associated extension with software bundles. Controller, i.e. processor, provides data control, thereby recognizing associated file extension).

Claims 2, 3, 10, 15, 16-18, 23, 25, 26, 31, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al. (US 6,091,508) and Yoshida et al. (US 6,130,757) as applied to claim 1 above, and further in view of Yang (US 6,467,087), hereafter referred to as Love, Yoshida, and Yang.

Regarding claim 2, which depends from claim 1, the combination of Love and Yoshida teaches the method of revising software in a multifunctional printer comprising revising, providing, qualifying, bundling, and loading the software on to a multifunctional printer, as explained above in the rejection of claim 1. The combination of Love and Yoshida does not disclose expressly a method of placing the bundle on a server. Yang, however, discloses a method of placing the bundle on a server (Yang, col 1, ln 51-56, wherein new versions of printer firmware are downloaded to a printer from an internet location, and col 2, ln 52-54, wherein the firmware flows from a remote server).

Love, Yoshida, and Yang are combinable because they are all from a similar field of endeavor of network printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of placing the

Art Unit: 2624

bundle on a server as taught by Yang with the aforementioned combination of Love and Yoshida teaching the method of revising, providing, qualifying, bundling, and loading multi-component software on a multifunctional printer. The suggestion for doing so was taught by Love by disclosing that the printer may be connected to a network and the downloaded driver may be similar to a web browser (Love, col 11, ln 15-20). Thus the software must have been loaded onto a server to be accessed over the Internet. Therefore, it would have been obvious to combine Yang with the combination of Love and Yoshida to obtain the invention as specified in claim 2.

Regarding claim 3, which depends from claim 2, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer wherein the server comprises the multifunctional printer (Yoshida, col 4, ln 30-32, wherein the multifunctional machines provide, as server apparatuses, their functions to other apparatuses in the network).

Regarding claim 10, which depends from claim 1, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer further comprising completing a pending task prior to the loading (Yang, col 2, ln 2-5, updating method can be performed after general function conducted by printer).

Regarding claim 15, which depends from claim 14, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer further comprising placing the bundle on a server (Yang, col 1, ln 51-56, wherein new versions of printer firmware are downloaded to a printer from an Internet location, and col 2, ln 52-54, wherein the firmware flows from a remote server).

Art Unit: 2624

Regarding claim 16, which depends from claim 15, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer wherein the server comprises the multifunctional printer (Yoshida, col 4, ln 30-32, wherein the multifunctional machines provide, as server apparatuses, their functions to other apparatuses in the network).

Regarding claim 17, which depends from claim 15, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer wherein the software bundle comprises a single file (Love, col 4, ln 40-43, software is bundled into a single Common File Format File).

Regarding claim 18, which depends from claim 17, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer wherein the file has an extension associated with software bundles (Love, col 4, ln 40-43, software is bundled into a single Common Object File Format File, which implicitly has an associated extension with software bundles).

Regarding claim 23, which depends from claim 14, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer further comprising completing a pending task prior to the loading (Yang, col 2, ln 2-5, updating method can be performed after general function conducted by printer).

Regarding claim 25, which depends from claim 24, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer further comprising placing the bundle on a server (Yang, col 1, ln 51-56, wherein new

Art Unit: 2624

versions of printer firmware are downloaded to a printer from an internet location, and col 2, ln 52-54, wherein the firmware flows from a remote server).

Regarding claim 26, which depends from claim 25, the combination of Love, Yoshida, and Yang teaches a method of revising software for a multifunctional printer wherein the server comprises the multifunctional device (Yoshida, col 4, ln 30-32, wherein the multifunctional machines provide, as server apparatuses, their functions to other apparatuses in the network).

Regarding claim 31, which depends from claim 30, the combination of Love, Yoshida, and Yang teaches a multifunctional printer wherein the input receives the software bundle via a network (Yang, col 1, ln 51-56, wherein new versions of printer firmware are downloaded to a printer from an internet location, and col 2, ln 52-54, wherein the firmware flows from a remote server).

Regarding claim 36, the combination of Love, Yoshida, and Yang teaches a multifunctional printer (Yoshida, col 4, ln 35-38, copying machine #1, figure 1, provides duplex copying, sorting function, stapling function, and facsimile function. See also col 7, ln 1-11, disclosing programs stored in memory controlling multifunctional device. Also see Love, fig 4, teaching a multifunctional printing system) having software components, comprising:

Revision means for revising at least one software component for a part of the multifunctional printer (Love, col 4, ln 37-39, code is created by using a standard compiler and linker. Also see col 4, ln 31-33, wherein software components comprise instructions for controlling paper tray selection and control panel, for example);

Qualification means for qualifying the at least one revised software component (Love, col 4, ln 40-41, compiling the code characterizes, i.e. qualifies, software into object code files) wherein the qualifying qualifies the at least one revised software components in conjunction with one or more other revisable software components of the multifunctional printer (Love, col 4, ln 6-15, ln 40-41, wherein all code is compiled, and wherein the plurality of software components for multifunctional printing system are revised);

Bundle means for bundling the software components as a software bundle wherein the software components comprises the at least one revised, qualified software component (Love, col 4, ln 41-43, aforementioned revised and qualified object files are combined (i.e. bundled) into a single software bundle); and

Load means for loading the software bundle on another multifunctional printer (Love, col 6, ln 9-12, after code preparation is complete, software bundle is loaded onto printer. In the combination of Love, Yoshida, and Yang, the multifunctional printer receives revised software from a host (Love, host #401 fig 4) or a server (Yang, server #100, fig 1). Yoshida also teaches a printer may have a server embedded therein, col 4, ln 30-51, thereby providing their functions to other apparatuses in the network. Accordingly, the multifunctional printer in the combination of Love, Yoshida, and Yang may load the software bundle onto another multifunctional printer as per the teaching of the MFP of Yoshida acting as a server, and the printer of Yang receiving software revisions from a server).

Claims 7, 9, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al. (US 6,091,508) and Yoshida et al. (US 6,130,757) as applied to claim 1 above, and further in view of Kim et al. (US 6,473,788), hereafter referred to as Love, Yoshida, and Kim.

Regarding claim 7, which depends from claim 1, the combination of Love and Yoshida teaches the method of revising software in a multifunctional printer comprising revising, providing, qualifying, bundling, and loading the software on to a multifunctional printer, as explained above in the rejection of claim 1. The combination of Love and Yoshida does not disclose expressly a method of executing administrative software to assist in the loading. Kim, however, teaches a method of executing administrative software to assist in loading of software onto a printer (Kim, col 6, ln 63-67, using an "Administration" web page, browser downloads corresponding applets for servicing of printer, causing programs to be executed).

Love, Yoshida, and Kim are combinable because they are from a similar field of endeavor of network printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of Kim comprising using administrative software to assist in loading software with the method of Love and Yoshida comprising revising, providing, qualifying, bundling, and loading multi-component software on a multifunctional printer. The motivation for doing so would have been to provide a method of servicing and maintaining network peripheral devices remotely, such as from a centralized service organization of a device manufacturer, over a network, such as the World Wide Web (Kim, col 1, ln 42-47), while providing the

Art Unit: 2624

security of an administrator loading package. Therefore, it would have been obvious to combine Kim with the combination of Love and Yoshida to obtain the invention as specified in claim 7.

Regarding claim 9, which depends from claim 1, the combination of Love, Yoshida, and Kim teaches a method of revising software in a multifunctional printer further comprising transmitting information related to the qualified, revised, software component (Love, col 4, ln 6-15, ln 40-41, wherein all code is compiled, and wherein the plurality of software components for multifunctional printing system are revised. See col 4, ln 6-22, wherein multiple pieces of software may be downloaded to printer to revise/update functions of multifunctional printing system. Also see col 4, ln 37-39, wherein code is created by using a standard compiler and linker. Code in a compiler may additionally be a revision of previous code) prior to, during and/or after the loading (Kim, col 1, ln 57-66, when a first packet is sent from a remote server to the network peripheral device, a second packet is sent from the network peripheral device back to the server. Finally, a third packet is sent from the remote server to the peripheral device, causing the software to be downloaded and the peripheral device to be serviced).

Regarding claim 20, which depends from claim 14, the combination of Love, Yoshida, and Kim teaches a method of revising software in a multifunctional printer further comprising executing administrative software to assist in the loading (Kim, col 6, ln 63-67, using an "Administration" web page, browser downloads corresponding applets for servicing of printer, causing programs to be executed).

Regarding claim 22, which depends from claim 14, the combination of Love, Yoshida, and Kim teaches a method of revising software in a multifunctional printer further comprising transmitting information related to the qualified, revised software component revision (Love, col 4, ln 6-15, ln 40-41, wherein all code is compiled, and wherein the plurality of software components for multifunctional printing system are revised. See col 4, ln 6-22, wherein multiple pieces of software may be downloaded to printer to revise/update functions of multifunctional printing system. Also see col 4, ln 37-39, wherein code is created by using a standard compiler and linker. Code in a compiler may additionally be a revision of previous code) prior to, during and/or after the loading (Kim, col 1, ln 57-66, when a first packet is sent from a remote server to the network peripheral device, a second packet is sent from the network peripheral device back to the server. Finally, a third packet is sent from the remote server to the peripheral device, causing the software to be downloaded and the peripheral device to be serviced).

Claims 8 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al. (US 6,091,508) and Yoshida et al. (US 6,130,757) as applied to claim 1 above, and further in view of Siwinski et al. (US 2002/0015066), hereafter referred to as Love, Yoshida, and Siwinski.

Regarding claim 8, which depends from claim 1, the combination of Love and Yoshida teaches a method of revising software in a multifunctional printer comprising revising, providing, qualifying, bundling, and loading the software on to a multifunctional

Art Unit: 2624

printer, as explained above in the rejection of claim 1. The combination of Love and Yoshida does not disclose expressly a method wherein the multifunctional printer comprises a smart print cartridge that operates cooperatively with at least one software component of the software bundle. Siwinski, however, does teach a method of printing wherein the printer comprises a smart print cartridge (Siwinski, paragraph 42, wherein a radio-frequency transponder is integrally connected to each consumable item, and paragraphs 32, 34, and 36, wherein consumables include the ink in the printer and the print head itself). Love and Yoshida teach a method of revising, providing, qualifying, bundling and loading software onto a multifunctional printer. Siwinski includes machine control logic processor (#32 of fig 2), which operates the printer (paragraph 32), driving the print head. The method of Love and Yoshida revises the software in a printer, which may include a printer driver (Love, col 1, ln 50-55). Thus, updating the printer driver in the combination of Love, Yoshida, and Siwinski updates the control logic, thereby providing a smart print cartridge operating cooperatively with the revised software component.

Love, Yoshida, and Siwinski are combinable because they are from the same field of endeavor of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of Siwinski comprising including a smart print cartridge with a printer with the combination of Love and Yoshida comprising revising, providing, qualifying, bundling, and loading multi-component software on a multifunctional printer. The motivation for doing so would have been to provide a printer and method adapted to sense data uniquely associated

Art Unit: 2624

with a consumable loaded into the printer (Siwinski, paragraph 14) to obviate the need for manual entry of data describing an inkjet consumable, instead providing information to the operator or to the inkjet printer apparatus itself about a consumable loaded in the printer (Siwinski, paragraph 18). Therefore, it would have been obvious to combine Siwinski with the combination of Love and Yoshida to obtain the invention as specified in claim 8.

Regarding claim 21, which depends from claim 14, the combination of Love, Yoshida, and Siwinski teaches a method of revising software in a multifunctional printer wherein the multifunctional printer comprises a smart print cartridge that operates cooperatively with at least one software component of the software bundle (Siwinski, paragraph 42, wherein a radio-frequency transponder is integrally connected to each consumable item, and paragraphs 32, 34, and 36, wherein consumables include the ink in the printer and the print head itself. Love and Yoshida teach a method of revising, providing, qualifying, bundling and loading software onto a multifunctional printer. Siwinski includes machine control logic processor (#32 of fig 2), which operates the printer (paragraph 32), driving the print head. The method of Love and Yoshida revises the software in a printer, which may include a printer driver (Love, col 1, ln 50-55). Thus, updating the printer driver in the combination of Love, Yoshida, and Siwinski updates the control logic, thereby providing a smart print cartridge operating cooperatively with the revised software component).

Response to Arguments

Applicant's arguments filed November 10, 2005 have been fully considered but they are not persuasive. Applicant argues, on page 14, lines 6-15, corresponding to claim 1, that the Love reference does not teach loading a software bundle where the bundle includes other revisable software components of a multifunctional printer, citing Love col 6, ln 16-18 which states: "All of these external routines are necessarily existing routines, since it is a purpose of this invention to make maximum use of routines already in the printer 1." The examiner agrees that the external routines are stored within the printer. However, the software includes "Relocation Tables," which include the information linking the external routines in the printer to the new, internal routines, of the revisable software (Love, col 5, ln 28-38). This is done to reduce the size of the operating code that must be downloaded to the peripheral device and to optimize the code for data processing. Additionally, although the table of routines, i.e. the external routines, may be part of the original printer code, it may be downloaded into the printer any time prior to its use (Love, col 11, ln 23-37). The examiner disagrees with the assertion that the method of Love provides a "limited" approach to revising and updating multifunctional printer software, citing the well known practice in software writing of retaining and using what works, i.e. external routines, and revising or updating only functions or modules that need changing, i.e. internal routines. Similar arguments apply to independent claims 11, 14, 24, 27, 30, and 36.

Applicant also argues, on page 20, lines 11-20, corresponding to claims 8 and 21, that the combination of Love, Yoshida, and Siwinski fails to teach a smart print

Art Unit: 2624

cartridge that operates cooperatively with at least one software component of the recited software bundle. Examiner notes that the printer of Siwinski comprises a machine control logic processor that controls the operation of the printer (Siwinski, paragraph 37). The examiner also notes that Love teaches revising printer software that drives the printer (Love, col 1, ln 45-55), and that software driving a printer controls the print head. Accordingly, the software revision of Love and Yoshida revises the software in a multifunctional printer such that a smart print cartridge operates cooperatively with the revised software.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 2624

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon J. Murphy whose telephone number is (571) 272-5945. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJM



DOUGLAS Q. TRAN
PRIMARY EXAMINER
